REMARKS

Status of the Claims

Claims 1-3, 5-7 and 9-15 are pending in the present application. Claims 4 and 8 have been cancelled and the subject matter contained therein has been incorporated into claims 1 and 5, respectively. Claim 9 has been withdrawn from consideration by the Examiner.

Restriction Requirement (Paragraphs 1-6 of Office Action)

Restriction to one of the inventions of Group I or Group II has been required by the Examiner under 35 U.S.C. 121. The requirement for restriction is respectfully traversed. Reconsideration and withdrawal thereof are requested.

Applicants affirm the election of the invention of Group I, claims 1-8 and 10-15 in order to initiate prosecution in the present application. Applicants preserve the right of filing a divisional application at a later stage.

The invention of Group I is directed to a fire retardant composition. This invention should encompass all uses of the fire retardant composition. Therefore, a reasonably complete search of the claimed composition would encompass uses thereof such as the claimed molded article having a covering utilizing the claimed

composition. Further, there is no undue burden on the Examiner for extending the search as outlined above.

Accordingly, reconsideration and withdrawal of the requirement for restriction are respectfully requested.

Priority (Paragraph 7 of Office Action)

The Examiner's attention is directed to Applicants' letter dated November 29, 1999, wherein Applicants claimed priority and filed a certified copy of the priority document. A copy of the stamped postcard showing that Applicants already filed the certified copy of the priority document is attached hereto.

Claim Objections (Paragraphs 8-10 of Office Action)

Claim 1 has been objected to by the Examiner because the claim recites that the metal hydrate "...is being pretreated..." thereby implying that this occurs during the manufacture of the composition. Claims 2 and 10-14 have been objected to by the Examiner for the same reason discussed above. Accordingly, the phrase "that is being" has been cancelled from claims 1, 5 and 9-14. This amendment does not narrow the scope of the claim.

Claims 4 and 8 have been objected to by the Examiner because of the phrase "vinyl group and/or an epoxy group at its terminal". Accordingly, the phrase "and/or" has been amended to read "or".

In view of the amendments to the claims and the remarks hereinabove, the various objections to the claims should be withdrawn by the Examiner.

Rejection of Claim 15 Under 35 U.S.C. 102(e) (Paragraphs 11-12 of Office Action)

Claim 15 has been rejected by the Examiner under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,929,165 to Tasaka et al. for the reasons set forth in paragraph 12 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

Claim 15 relates to a fire-retardant resin composition, which comprises a thermoplastic resin composition (A) comprising (a) 100 parts by weight of a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 30 to 70 parts by weight of a nonaromatic-series softening agent for rubber, (c) 10 to 60 parts by weight of a polypropylene-series resin, (d) 50 to 200 parts by weight of an ethylene/α-olefin copolymer having a density of 0.91

g/cm^3 or less that is synthesized in the presence of a single site catalyst, and (e) 0.1 to 1.5 parts by weight of an organic peroxide; and 100 to 250 parts by weight of a metal hydrate (B), to 100 parts by weight of the thermoplastic resin composition (A).

Accordingly, the present invention utilizes an ethylene/α-olefin copolymer having a density of 0.91 g/cm^3 or less that is synthesized in the presence of a single site catalyst. The Examiner's position is that being "synthesized in the presence of a single site catalyst…bears no patentable weight since the patentability of a product claim rests on the product formed, not on the method by which it was produced…" In response, the Examiner's attention is directed to the attached Rule 132 Declaration.

More specifically, the Declarant compares various fire-retardant resin compositions and the properties thereof. One of these compositions contains an ethylene/α-olefin copolymer synthesized in the presence of a single site catalyst. Another composition contains an ethylene/ α-olefin copolymer synthesized in the presence of a multi-site catalyst.

The procedures for conducting the comparative tests are discussed on pages 2-3 of the Rule 132 Declaration. The results are shown in Table I on page 4 of the Rule 132 Declaration. The results

show that the ethylene/α-olefin copolymer synthesized in the presence of a single site catalyst is unexpectedly superior to composition(s) which contain an ethylene/ α-olefin copolymer synthesized in the presence of a multi-site catalyst.

Accordingly, based on this data, it should be readily apparent to the Examiner that a fire-retardant resin composition according to the present invention is unexpectedly superior with respect to mechanical characteristics and heat resistance as compared to the prior art relied upon by the Examiner. The Examiner should further note that the test results in the specification also supports the patentability of the present invention. Therefore, the rejection of claim 15 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,929,165 to Tasaka et al. should be withdrawn by the Examiner.

Rejection of Claims 1-3, 5-7 and 10-14 Under 35 U.S.C. 103(a) Over U.S. Patent 5,929,165 to Tasaka et al. In View of U.S. Patent 5,221,781 to Aida et al. (Paragraphs 13-16 of Office Action)

Claims 1-3, 5-7 and 10-14 have been rejected by the Examiner under 35 U.S.C. 103(a) over U.S. Patent 5,929,165 to Tasaka et al. in view of U.S. Patent 5,221,781 to Aida et al. for the reasons set forth in paragraphs 13-16 of Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

Claims 4 and 8 are free of this rejection. Accordingly, the subject matter of claims 4 and 8 has been incorporated into claims 1 and 5, respectively. Therefore, this rejection is moot and should be withdrawn.

Rejection of Claims 1-14 Under 35 U.S.C. 103(a) Over Tasaka et al. In View of U.S. Patent 6,218,454 to Nosu et al. (Paragraph 17 of Office Action)

Claims 1-14 have been rejected by the Examiner under 35 U.S.C. 103(a) over Tasaka et al. in view of U.S. Patent 6,218,454 to Nosu et al. for the reasons set forth in paragraph 17 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

The Nosu et al. patent is effective as a reference as of its U.S. filing date, which is October 15, 1998. The present application claims priority as of August 31, 1998. Thus, this rejection may be overcome by the filing of a certified English translation of the priority document for the present application. Applicants' representative will forward the certified English translation of the priority document upon receipt thereof. The Examiner is respectfully requested to withdraw this rejection upon review of the certified English translation of the priority document.

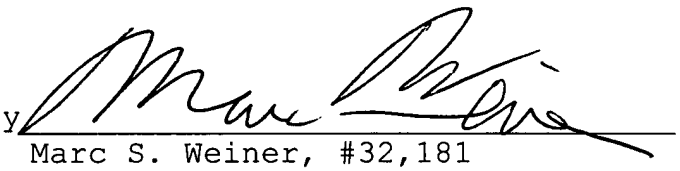
Nosu - Foreign Application priority data 9-303677 Oct 17, 1997.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of $110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

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VERSION WITH MARKS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 4 and 8 are cancelled.

The claims have been amended as follows:

Claim 1 (Amended) A fire-retardant resin composition, which comprises:

a thermoplastic resin component (A) comprising (a) 100 parts by weight of a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of a nonaromatic-series softening agent for rubber, (c) 30 to 400 parts by weight of an ethylene/α-olefin copolymer, and (d) 0 to 200 parts by weight of a polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of an organic peroxide, (f) 0.03 to 1.8 parts by weight of a (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of a metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent, wherein the silane coupling agent is a silane compound having a vinyl group or an epoxy group at its terminal; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent, wherein the silane coupling agent is a silane compound having a vinyl group or an epoxy group at its terminal; and

the fire-retardant resin composition is a mixture of the above formulation that is heated and kneaded at a temperature equal to or higher than the melting temperature of the thermoplastic resin component (A).

Claim 5 (Amended) A fire-retardant resin composition, which comprises:

a thermoplastic resin component (A) comprising (a) 100 parts by weight of a block copolymer made up of at least two polymer

blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of a nonaromatic-series softening agent for rubber, (c) 50 to 250 parts by weight of an ethylene/α-olefin copolymer, and (d) 0 to 100 parts by weight of a polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of an organic peroxide, (f) 0.03 to 1.8 parts by weight of a (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of a metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent, wherein the silane coupling agent is a silane compound having a vinyl group or an epoxy group at its terminal; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is

made up of a metal hydrate [that is being] pretreated with a silane coupling agent, wherein the silane coupling agent is a silane compound having a vinyl group or an epoxy group at its terminal; and

the fire-retardant resin composition is a mixture of the above formulation that is heated and kneaded at a temperature equal to or higher than the melting temperature of the thermoplastic resin component (A).

Claim 10 (Amended) A molded part, which is obtained by molding a fire-retardant resin composition,

wherein the fire-retardant resin composition comprises:

a thermoplastic resin component (A) comprising (a) 100 parts by weight of a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of a nonaromatic-series softening agent for rubber, (c) 50 to 250 parts by weight of an ethylene/α-olefin copolymer, and (d) 0 to 100 parts by weight of a polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of an organic peroxide, (f) 0.03 to 1.8 parts by weight of a (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of a metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; and

the fire-retardant resin composition is a mixture of the above formulation that is heated and kneaded at a temperature equal to or higher than the melting temperature of the thermoplastic resin component (A).

Claim 11 (Amended) A method for preparing a fire-retardant resin composition, which comprises heating and kneading, simultaneously, at the temperature equal to or higher than the

melting temperature of the following thermoplastic resin component (A), (a) a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) a nonaromatic-series softening agent for rubber, (c) an ethylene/α-olefin copolymer, (d) a polypropylene resin, (e) an organic peroxide, (f) a (meth)acrylate-series and/or allyl-series crosslinking aid, and a metal hydrate (B), to carry out crosslinking,

wherein the fire-retardant resin composition comprises:

the thermoplastic resin component (A) comprising (a) 100 parts by weight of the block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or the hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of the nonaromatic-series softening agent for rubber, (c) 30 to 400 parts by weight of the ethylene/α-olefin copolymer, and (d) 0 to 200 parts by weight of the polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of the organic peroxide, (f) 0.03 to 1.8 parts by weight of the (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of the metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A);

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent.

Claim 12 (Amended) A method for preparing a fire-retardant resin composition, which comprises heating and kneading, simultaneously, at the temperature equal to or higher than the melting temperature of the following thermoplastic resin component (A), (a) a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a

conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) a nonaromatic-series softening agent for rubber, (c) an ethylene/α-olefin copolymer, (d) a polypropylene resin, (e) an organic peroxide, (f) a (meth)acrylate-series and/or allyl-series crosslinking aid, and a metal hydrate (B), to carry out crosslinking,

wherein the fire-retardant resin composition comprises:

the thermoplastic resin component (A) comprising (a) 100 parts by weight of the block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or the hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of the nonaromatic-series softening agent for rubber, (c) 50 to 250 parts by weight of the ethylene/α-olefin copolymer, and (d) 0 to 100 parts by weight of the polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of the organic peroxide, (f) 0.03 to 1.8 parts by weight of the (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of the

metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent.

Claim 13 (Amended) A method for preparing a fire-retardant resin composition, which comprises:

a first step of heating and kneading (a) a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) a nonaromatic-series softening agent for rubber, (c) an ethylene/α-olefin

copolymer, and (d) a polypropylene resin, to obtain a thermoplastic resin component (A), and

a second step of heating and kneading, at the temperature equal to or higher than the melting temperature of the thermoplastic resin component (A), the resultant resin component (A), (e) an organic peroxide, (f) a (meth)acrylate-series and/or allyl-series crosslinking aid, and a metal hydrate (B), to carry out crosslinking,

wherein the fire-retardant resin composition comprises:

the thermoplastic resin component (A) comprising (a) 100 parts by weight of the block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or the hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of the nonaromatic-series softening agent for rubber, (c) 30 to 400 parts by weight of the ethylene/α-olefin copolymer, and (d) 0 to 200 parts by weight of the polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of the organic peroxide, (f) 0.03 to 1.8 parts by weight of the (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of the

metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent.

Claim 14 (Amended) A method for preparing a fire-retardant resin composition, which comprises:

a first step of heating and kneading (a) a block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or a hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) a nonaromatic-series softening agent for rubber, (c) an ethylene/α-olefin

copolymer, and (d) a polypropylene resin, to obtain a thermoplastic resin component (A), and

a second step of heating and kneading, at the temperature equal to or higher than the melting temperature of the thermoplastic resin component (A), the resultant resin component (A), (e) an organic peroxide, (f) a (meth)acrylate-series and/or allyl-series crosslinking aid, and a metal hydrate (B), to carry out crosslinking,

wherein the fire-retardant resin composition comprises:

the thermoplastic resin component (A) comprising (a) 100 parts by weight of the block copolymer made up of at least two polymer blocks A mainly made of a vinyl aromatic compound as its constitutional component and at least one polymer block B mainly made of a conjugated diene compound as its constitutional component, and/or the hydrogenated block copolymer obtained by hydrogenating the block copolymer, (b) 10 to 100 parts by weight of the nonaromatic-series softening agent for rubber, (c) 50 to 250 parts by weight of the ethylene/α-olefin copolymer, and (d) 0 to 100 parts by weight of the polypropylene resin; and

(e) 0.01 to 0.6 parts by weight of the organic peroxide, (f) 0.03 to 1.8 parts by weight of the (meth)acrylate-series and/or allyl-series crosslinking aid, and 50 to 300 parts by weight of the

metal hydrate (B), respectively to 100 parts by weight of the thermoplastic resin component (A),

wherein the metal hydrate (B) is such that (i) when the metal hydrate (B) is in an amount of 50 parts by weight or more but less than 100 parts by weight, 50 parts by weight or more of the metal hydrate (B) to 100 parts by weight of the thermoplastic resin component (A) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent; or (ii) when the metal hydrate (B) is in an amount of 100 parts by weight or more but 300 parts by weight or less, at least half of the amount of the metal hydrate (B) is made up of a metal hydrate [that is being] pretreated with a silane coupling agent.